

directing radiant energy at two or more wavelengths onto a layer to be etched;

detecting a last intensity maximum reflected at a first wavelength prior to the selected etch endpoint; and

detecting an intensity maximum reflected at a second wavelength first occurring after the last intensity maximum at the first wavelength.

8. (Twice Amended) A method for determining an endpoint for etching a layer having an initial thickness, comprising steps of, during etch,

directing radiant energy at three or more wavelengths onto the layer to be etched;

selecting first, second, and third wavelengths;

selecting an etch rate from a time interval between a first detected intensity minimum and an adjacent intensity maximum reflected at the third wavelength, and selecting an etch endpoint based on the initial thickness of the layer and the selected etch rate;

detecting a last intensity maximum reflected at the first wavelength prior to the selected etch endpoint; and

detecting an intensity maximum reflected at the second wavelength first occurring after the last intensity maximum at the first wavelength.